

**CITY OF SANTA FE SPRINGS FIRE DEPARTMENT  
ENVIRONMENTAL PROTECTION DIVISION**

July 14, 2000

In the Matter of:

CENCO Refining Company  
12345 Lakeland Road  
Santa Fe Springs, CA 90670

EPA ID # CAD008383291

**CUPA INSPECTION REPORT**

**SITE BACKGROUND**

CENCO Refining Company ("CENCO") is a new owner of an existing oil refinery formerly owned and operated by Powerine Oil Company ("Powerine"). The refinery is an independent refinery processing sour crude. The refinery has not been in full operation since 1995. In December of 1998, escrow closed on CENCO's purchase of the refinery. The refinery, during full operation in the past, generated several types of waste: RCRA wastes, California Only wastes and Excluded Recyclable wastes.

In 1997, the former Powerine sold a piece of property south of the main refinery (12354 Lakeland Road). This property consisted of offices, a Fuel Distribution Unit, a Chemical Warehouse, a Hazardous Waste Storage Area, a Maintenance Garage and a Laboratory. During the demolition process, Powerine moved all of their chemical products and waste in drums and roll-off bins over to their other properties.

Most of the hazardous wastes stored at the 12354 Lakeland property were relocated to an area on the 12345 Lakeland property referred to as the Wash Pad. The Wash Pad is located in the northwest portion of the property adjacent to Florence Avenue. The Wash Pad is a cement pad with secondary

containment and drainage to a separate containment area. This area is also fenced with signs to keep unauthorized individuals out of the area.

The products from the Chemical Warehouse were transferred to the Coke Barn located on the Bloomfield Property. The area known as the Bloomfield Property is a detached section of the refinery on the east side of Bloomfield. The Coke Barn is a metal structure with a concrete slab floor on the Bloomfield Property. At the time of the inspection, there was only one small pile of coke being stored on the floor of the barn. The rest of the floor space was being used for the storage of reclaimed catalyst, chemical products and other miscellaneous refinery items. This area also has a petroleum storage tank farm and a parking lot to the north of the barn.

In addition, excluded recyclable wastes and empty containers were transferred and stored outside of the Coke Barn. Along with the drums and roll-off bins, Powerine moved several hundred cubic yards of soil from 12354 Lakeland to the area north of the Coke Barn.

During the closure of the 12354 Lakeland Road facility, Powerine identified several areas of contamination on the site. The closure activities of the site were permitted by the Santa Fe Springs Fire Department in its capacity as a Certified Unified Program Agency ("Fire Department" or "CUPA") under the authority of the Uniform Fire Code. During this process, Powerine was to advise the CUPA of all remedial activities, but Powerine failed to indicate that they would be moving contaminated soil from the 12354 Lakeland Road facility to the Bloomfield Property.

On August 21, 1997, the CUPA requested information on the origin and classification of the soil being stored at the Bloomfield property. Powerine responded to the request on September 2, 1997. They stated that any contamination from a refinery is not subject to the requirements in Chapter 6.5 of the California Health and Safety Code for waste determination. Powerine cited a petroleum exclusion under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Powerine did not indicate the exact origin of the soil except that it was from the "east end" of the property.

On October 9, 1997, the CUPA responded to Powerine's waste determination for the soil piles. The CUPA disagreed with Powerine's petroleum exclusion because the soil from the non-refinery areas such as the

Hazardous Waste Storage Area, the Maintenance Garage and the Laboratory Facility would contain more than merely petroleum hydrocarbons. The CUPA advised Powerine that they did not make a proper waste determination per 22CCR66261.11.

### SITE INSPECTION

On September 28, 1999, Steve Koester and Richard Kallman of the Fire Department did a routine inspection of the facility's Hazardous Waste Generator Permit. Consent for the inspection was given by CENCO representatives Hal Taback, Director of Environmental Health and Safety and Neil Norcross, Environmental Engineer.

The first portion of the inspection involved a walk-through the main part of the refinery (12345 Lakeland). The inspectors observed a few drums that did not have labels in the refinery area, but the majority of the drums were located in the Wash Pad area. The drums here were packed tightly together in groups and the inspectors could not inspect all of the drums due to the tight storage. The drums that were visible, were rusted and in poor condition. The labels indicated that the drums had been stored for several years. Some of the labels that were legible indicated that the waste was generated in 1995. None of the drums in this area were leaking at the time of the inspection. The Wash Pad will be referred to as Area I. See Appendix I.

After inspecting the Wash Pad area, the inspectors walked through the rest of the main part of the refinery and did not observe any other areas of concern. The inspectors then crossed Bloomfield and went over to the east storage area and Coke Barn. The Coke Barn contained hundreds of drums stacked two high and in two tightly packed groups. The drums had been moved from the Chemical Warehouse prior to its demolition at 12354 Lakeland. Some of these drums were in poor condition and there was some type of spilled material on the ground. Three drums labeled ECI Additive (a flammable liquid) had gone through some type of reaction that caused the drums to severely bulge. The drums also were in poor condition and it appeared that they had been exposed to the weather for some time. On the west portion inside the Coke Barn, there were some drums and pails of used oils. The containers were not sealed and did not have any waste labels on them. There were no aisles in this storage area and the drums could not be inspected due to the tight packing of the containers. The inside of the Coke

Barn is referred to as Area 7 and the area immediately outside of the Coke Barn is referred to as Area 2.

Outside the north east corner of the barn was another storage area made up of several hundred drums. Most of these drums were empty and stored upside down. There were several drums labeled Excluded Recyclable Material. The dates on the drums indicated that the drums were generated in 1995 and 1996. Also in this area were a few drums that had no labels. Many of these drums were in poor condition. One of the drums integrity had failed and a reddish material had spilled to the ground. The drums in this area are referenced as Area 3.

An area designated as Area 4 consisted of roll-off bins. CENCO had documentation on all of the bins except a few. The lab results showed the material in the bins were not hazardous waste. The bins all had labels on them and were in good condition.

West of the roll-off bins was another group of drums referenced as Area 6. The drums in this area were not labeled and in very poor condition. Several of the drums had rotted through the metal and/or were exposed to the elements.

Just west of Area 6 was a large storage area of more than one thousand drums. The drums in this area were stored in a long pile stored two high and up to ten deep. Most of these drums were empty, but a few of the drums had material in them. Most of the drums did not have any labels on them nor did Neil Norcross have any idea of what was in them. These drums were also in poor condition. The drums in this area are referenced as Area 5.

Near Area 5, the inspectors observed three piles of soil. Two of the piles (Stockpile 1 and Stockpile 2) were located to the North of Area 5 and were 75' by 250' and approximately 3' deep. See Appendix II. These two piles are estimated by CENCO as consisting of 2050 cubic feet of soil each. The other pile (Stockpile 3) was located to the west of Area 5 and was 75' by 125' and approximately 3' deep. This pile is estimated to be around 1000 cubic feet of soil. All of the piles had plastic sheeting under and over them. After completing their inspection of Area 5 the inspectors met with June Christman, CENCO's Environmental Engineering Manager, for a review of CENCO's records. A review of the manifests showed that CENCO was missing the copy of the final signed manifest # 98585169 sent on November

4, 1998. CENCO and Powerine had no records of weekly waste inspections and had no documentation of personnel waste training for the employees handling the waste. The refinery had not updated their Hazardous Materials Business Plan since 1996 and the plan did not reflect the new owner and the refinery being shut down.

The inspectors had a closing conference with Hal Taback, Neil Norcross and June Christman. The inspectors informed Christman, Taback, and Norcross, that because of the hazardous waste storage arrangement and CENCO's lack of waste determination, the CUPA could not completely assess all of the violations on the site. The inspectors stated that they would advise CENCO on how the CUPA would complete the inspection. The inspectors thanked CENCO for their cooperation and told CENCO that they would be in contact as soon as they determined how the inspection would be completed.

#### POST INSPECTION ACTIVITIES

After the inspection CENCO consented to the CUPA securing the areas involving the drums and the soil pile. Fire Chief Neal Welland and Steve Koester put locks on any gates to the areas and red barricade tape for all pathways to the areas. CENCO personnel could not cross the barriers without being accompanied by the CUPA.

On September 29, 1999, Christman and Taback of CENCO met with Welland, Kallman and Koester. The violations of the site were discussed and a possible course of action to complete the site characterization. The CUPA proposed that the parties enter into an agreement describing the site characterization procedures and reimbursement of costs. CENCO agreed.

On September 30, 1999, the City Manager of the City of Santa Fe Springs (the "City"), Fred Latham, met with J. Nelson Happy, Chief Executive Officer of CENCO, Geoff Soares, President of CENCO, and Don Brown, CENCO Community Liaison. This was a previously scheduled meeting to discuss the permits needed to reopen the refinery. During the meeting, Soares stated that he accepted full responsibility for the situation and was aware of the compliance problems associated with the drums. Soares further stated that they had made an effort to clean material left from Powerine, but had not attended to the drums yet. Also, Soares admitted that the drums had been moved, and that some of the materials were from the 12354 Lakeland address.

That afternoon, Kallman and Koester revisited the site to take pictures of the storage areas and to try to estimate the number of drums involved in the site characterization. A rough count of the storage determined that around 1800 drums were being stored in the seven areas.

On October 22, 1999, the City and CENCO came to an agreement on the terms on proceeding with the inspection. The parties agreed that the City would retain a consultant to perform a site characterization. CENCO would reimburse the City for all costs associated with the project, including time spent by City employees and attorney fees. See Appendix III for a copy of the signed REIMBURSEMENT AND ACCESS AGREEMENT FOR SITE CHARACTERIZATION AT CENCO FACILITY.

Subsequently, a Scope Of Work – Bid Criteria was put together by the Fire Department. See Appendix IV. CENCO approved of the Scope of Work and the document was sent out to potential contractors to assess the drum storage areas. Job walks for the contract were scheduled on October 29, 1999, and on November 16, 1999.

On November 3, 1999, Koester inspected Area 3 and Area 5 to collect documentation on the storage conditions at the refinery. Photographs were taken with a preliminary description of the types of violations and the condition of specific drums. A Preliminary Assessment for Hazardous Waste Violations report was completed on November 23, 1999. Copies of this report were given to CENCO. See Appendix V.

On December 27, 1999, the City and ONYX Environmental Services entered into an agreement for the characterization of the seven areas designated by the CUPA. See Appendix VI.

In late March, ONYX submitted a final report concerning the Site Characterization for the drums. Copies of the report were sent to Colin Lennard's office and to CENCO. On April 5, 2000, the Fire Department received a letter from John Wright, Executive Vice President of CENCO. The letter addressed several concerns CENCO had with the ONYX Final Report. Mr. Wright felt that the collective effect of the deficiencies would undermine the conclusions reached by the ONYX report. See Appendix VII.

The CUPA and ONYX reviewed the areas of concern identified by CENCO and made corrections to errors in the data. On May 25, 2000, ONYX submitted a revised version of the ONYX Final Report to the Fire Department. See Appendix VIII. Copies of the report were given to CENCO. On May 26, 2000, the Fire Department issued a formal response to Wright's letter. See Appendix IX. The response addressed each of the items submitted in his April 5, 2000 letter and were included in the ONYX Final Report or are addressed in this report.

## SUMMARY OF VIOLATIONS

The following is a summary of the violations pertaining to hazardous waste management. The category of violation is attached to each area of non-compliance and the containers or conditions associated with the violation are listed.

### DRUM VIOLATIONS

- 1) A violation of the California Code of Regulations, Title 22, Section 66262.11 for failure to make a waste determination for the storage of waste containers. Several drums on site had no labels and contained unknown waste material inside them. The waste was being stored in rusted containers and no determination was made to classify the waste for proper management. This is a Class I Violation.

Drums subject to these violations are: 1C-19, 1C-24, 1C-31, 1C-48, 1C-49, 1C-56, 1C-58, 1C-64, 1C-92, 1C-96, 1C-101, 1C-103, 3C-115, 3C-116, 3C-125, 3C-130 to 3C-133, 3C-139, 3C-142, 3C-143, 3C-145, 3C-146, 3C-152, 3C-154, 3C-157, 3C-158, 3C-161, 3C-167, 3C-168, 3C-172, 3C-173, 3C-178, 3C-179, 3C-182, 3C-185, 3C-187, 3C-194, 3C-195, 3C-196, 3C-197, 3C-198, 3C-199, 3C-201, 3C-215, 3C-216, 3C-224, 3C-230, 3C-231, 3C-232, 3C-234, 3C-235, 3C-236, 3C-237, 3C-238, 3C-239, 3C-240, 3C-241, 3C-242, 4C-11, 4C-28, 5C-96, 5C-139, 5C-745, 5C-746, 5C-880 through 5C-892, 5C-894 through 5C-897, 5C-902 through 5C-905, 5C-907 through 5C-930, 5C-932, 5C-933, 5C-934, 5C-936, 5C-939, 6C-5, 6C-7, 6C-8, 6C-9, 6C-13, 6C-14, 6C-15, 6C-18, 6C-22, 6C-29, 6C-34, 6C-36 to 6C-41, 7C-1, 7C-2, 7C-22, 7C-69, 7C-123, 7C-133, 7C-201, 7C-221, 7C-222, 7C-231, 7C-232, 7C-233. The total number of drums subject to this violation is 149.

-103 out

$\frac{103}{46}$  - seems to be a difference  
in #s 46 vs 40 -

City not willing to concede

- 2) A violation of the California Health and Safety Code, Section 25201 and of the California Code of Regulations, Section 66262.34(a) for storage of waste for longer than 90 days without a permit. RCRA waste and California Only waste had been stored on the site greater than 90 days.

A violation of the Health and Safety Code, Section 25143.2(e)(4) for Speculative Accumulation of Excluded Recyclable Materials. The Excluded Recyclable drums were of spent material, intended to be recycled when the refinery resumed operations. However, because none of the materials in the drums were recycled within a calendar year, the materials became a hazardous waste pursuant to Health and Safety Code Section 25143.2(e)(4) and California Code of Regulations Title 22, Section 66260.10 (definition of "accumulated speculatively").

A violation of the California Code of Regulations, Title 22, Section 66261.7 for failure to manage contaminated empty containers within one year. Empty containers that once held hazardous materials, shall be properly managed. The drums must be labeled "Empty" with the date the drum was emptied and reused, reclaimed or disposed within one year.

These violations are collectively a Class I violation.

The RCRA waste drums associated with this violation are: 1C-12, 1C-17, 1C-18, 1C-19, 1C-20, 1C-33, 1C-34, 1C-64, 1C-101, 3C-158, 3C-193, 7C-1, 7C-2, 7C-231, 7C-232, 7C-233. The total number of RCRA waste drums associated with this violation is 16.

The California Only waste drums associated with this violation are: 1C-24, 1C-25, 1C-29, 1C-30, 1C-38, 1C-40, 1C-41, 1C-42, 1C-43, 1C-44, 1C-45, 1C-46, 1C-50, 1C-97, 1C-98, 1C-99, 3C-115, 3C-116, 3C-163, 3C-164, 5C-880, 5C-882, 5C-981, 5C-904, 5C-916, 5C-917, 5C-919, 5C-920, 5C-925, 5C-931, 7C-69, 7C-133, 7C-221, 7C-222. The total number of drums associated with this violation is 34.

The Excluded Recyclable waste drums associated with this violation are: 3C-118 through 3C-129, 3C-132 through 3C-150, 3C-152



through 3C-156, 3C-162, 3C-165 through 3C-185, 3C-187, 3C-189, 3C-190, 3C-191, 3C-192, 3C-196 through 3C-214, 3C-217, 3C-218, 3C-219, 3C-220, 3C-227, 3C-228, 3C-229, 3C-232, 5C-922, 5C-932, 5C-936, 5C-923, 5C-924, 5C-930, 7C-22, 7C-123. The total number of drums associated with this violation is 96.

The California Regulated Empty Containers associated with this violation are: 1C-13, 1C-26, 1C-27, 1C-47, 3C-1 through 3C-114, 3C-144, 5C-1 through 5C-95, 5C-97 through 5C-138, 5C-140 through 5C-452, 5C-455 through 5C-558, 5C-560 through 5C-660, 5C-662 through 5C-744, 5C-747 through 5C-879, 5C-906, 5C-938, 5C-919, 5C-920, 5C-559, 5C-453, 5C-454, 5C-746, 5C-913, 5C-914, 5C-915, 5C-929, 5C-939, 5C-881, 5C-886, 5C-921, 6C-36, 6C-37, 6C-1, 6C-2, 6C-3, 6C-4. The total number of empty drums is 1014, however, according to CENCO who performed a survey of 600 empty drums, approximately fifty percent (50%) of the empty drums were completely free of residue or had originally contained only non-hazardous materials. See Appendix VIII. Despite the fact that CENCO has not given the CUPA any supporting documentation to show that some of the drums originally contained only non-hazardous materials, the CUPA will assess the violations based on CENCO's fifty percent estimate. Thus, the total number of drums subject to this violation is 507.

- 3) A violation of the California Code of Regulations, Section 66262.34(f) for failure to properly mark waste containers. Drums in Area 1, Area 5, and Area 7 had containers with no labels on them or labels that were not legible or were incomplete. Drums of hazardous waste could not be distinguished from drums of non-hazardous waste. The improper management of the drums contributed to this condition and the length of time the drums had been stored, added to this violation. The total number of containers subject to this violation is 24. This is a Class II Violation.

The containers associated with this violation are: 1C-19, 1C-24, 1C-25, 1C-29, 1C-30, 1C-33, 1C-34, 1C-38, 1C-40, 1C-41, 1C-64, 1C-101, 5C-880, 5C-891, 5C-904, 5C-917, 5C-922, 5C-932, 5C-936, 7C-22, 7C-123, 7C-231, 7C-232, 7C-233.

- 4) A violation of the California Code of Regulations, Title 22, Sections 66262.34(a)(1)(A) and Section 66265.173 for failure to store hazardous waste in containers that are closed and in good condition to prevent releases or harm to health and the environment. Drums of waste were not sealed, had leaked, had undergone an internal reaction or were in poor condition such that they were a threat to release.

These violations are collectively a Class I Violation.

The RCRA waste drums associated with this violation are: 1C-12, 1C-17, 1C-18, 1C-19, 1C-20, 1C-33, 1C-34, 1C-64, 1C-101, 3C-158, 3C-193, 7C-1, 7C-2, 7C-231, 7C-232, 7C-233. The total number of RCRA waste drums associated with this violation is 16.

The California Only waste drums associated with this violation are: 1C-24, 1C-25, 1C-29, 1C-30, 1C-38, 1C-40, 1C-41, 1C-42, 1C-43, 1C-44, 1C-45, 1C-46, 1C-50, 1C-97, 1C-98, 1C-99, 3C-115, 3C-116, 3C-163, 3C-164, 5C-880, 5C-882, 5C-981, 5C-904, 5C-916, 5C-917, 5C-919, 5C-920, 5C-925, 5C-931, 7C-69, 7C-133, 7C-221, 7C-222. The total number of drums associated with this violation is 34.

The Excluded Recyclable waste drums associated with this violation are: 3C-118 through 3C-129, 3C-132 through 3C-150, 3C-152 through 3C-156, 3C-162, 3C-165 through 3C-185, 3C-187, 3C-189, 3C-190, 3C-191, 3C-192, 3C-196 through 3C-214, 3C-217, 3C-218, 3C-219, 3C-220, 3C-227, 3C-228, 3C-229, 3C-232, 5C-922, 5C-932, 5C-936, 5C-923, 5C-924, 5C-930, 7C-22, 7C-123. The total number of drums associated with this violation is 96.

- 5) A violation of the California Code of Regulations, Title 22, Section 66265.31 for failure to minimize the possibility of a fire, explosion, or release to the environment. The unpermitted storage of hazardous waste and poor management of containers increased the likelihood of fire, explosion or release to the environment. In fact, some drums were not sealed, had leaked, or had undergone an internal reaction.

The violations in this section are a Class I violation.

- 6) A violation of the California Code of Regulations, Title 22, Sections 66262.34(a)(1)(A) and 66265.174 for failure to inspect waste storage

areas at least weekly for the proper management of hazardous waste. The failure of this requirement greatly contributed to the deterioration of the areas and the releases to the environment. This is a Class I Violation. The number of weeks this violation occurred is 38.

- 7) A violation of the California Code of Regulations, Title 22, Sections 66262.34(a)(4) and 66265.35 for failure to maintain proper aisle space in the storage areas. In Area 1, Area 3, Area 5 and Area 7 the containers were packed so tight that the areas could not be properly inspected to determine compliance for generator requirements and the container condition. This is a Class II Violation. The total number of violations pertaining to this section is 4.
- 8) A violation of the California Code of Regulations, Title 22, Sections 66262.34(a)(1)(A) and 66265.177 for failure to separate incompatibles. In Area 3, a drum of RCRA waste flammable liquid (drum 3C-158) was being stored adjacent to a drum of RCRA waste corrosive liquid (drum 3C-193). The drum of flammable waste had failed and spilled to the ground. The drum of corrosive waste had over flowed the top and was crusted on the lid. The closeness of the containers and storage conditions made the situation a major potential for harm. This is a Class I violation. This violation occurred one time.
- 9) A violation of the California Code of Regulations, Title 22, Section 66265.16 for failure to meet the personnel training requirements. Employees who handle hazardous waste shall successfully complete a program of instruction that teaches them to perform their duties in a way that ensures the facility's compliance with the generator requirements found in the California Code of Regulations. During the file review, no documents were presented showing the employees had received the necessary training nor did the condition of the storage areas indicate that they were competent in hazardous waste compliance. This is a Class II Violation. This is a one time violation.
- 10) A violation of the California Code of Regulations, Title 22, Sections 66262.34(a)(4) and 66262.40(a) for failure to maintain the final copy of manifest 98585169 for hazardous waste shipped on 11-4-98. The facility could not indicate that the shipment had been received by the

Treatment, Storage, Disposal Facility (TSDF). This is a Minor Violation. This violation occurred one time.

### SOIL PILE VIOLATIONS

The City requested that the CUPA sample the soil piles because they were located in an area that could have potentially affected the EIR process for the refinery's upgrade project. This area, the area north of the Coke Barn, is designated as overflow contractor parking for the project. The City was concerned about possible contamination resulting from the storage of the drums and soil piles in that area. Thus, the City requested that the soil piles and the soil near the drums be sampled to determine whether there was any significant contamination which would impact the environment and the project.

The soil piles were analyzed for materials that were not previously analyzed by Powerine/CENCO in their waste determination. Soil samples were taken "downstream" from the drums. While soil samples "downstream" from the drums did not show any significant contamination, results from the samples taken from the soil piles indicated that one sample exceeded the California threshold levels for zinc and two samples exceeded the levels for lead. Therefore, Powerine and CENCO are subject to the following violations:

- 11) A violation of the California Code of Regulations, Title 22, Section 66262.11, for failure to make a hazardous waste determination. CENCO failed to test for the California Characteristics of Toxicity. The results of the sampling indicated that the soil contained metals greater than the Total Threshold Limit Concentration (TTLC) for zinc and lead. CENCO confirmed the CUPA's findings when it took two samples around the boring that yielded the high zinc levels exceeding the TTLC. See Letter from Versar to Neil Norcross dated April 18, 2000 re: Work Plan for Further Characterization of Stockpiled Soil at the Bloomfield Property attached as Appendix XI. Thus, CENCO's consultant advised CENCO to remove two of the grid cells (25' x 25' each) in Stockpile 1. The failure to make a proper waste determination here is a Class I violation. The occurrence for this violation is one time.
- 12) A violation of the Health and Safety Code, Section 25201 and of the California Code of Regulations, Title 22, Section 66262.34(a), for the

storage of hazardous waste (soil contaminated with zinc) longer than 90 days. The soil was moved from 12354 Lakeland and stored on the Bloomfield property since 1997. In addition, the soil was not properly contained or labeled while being stored at the Bloomfield property. This is a Class I violation. The occurrence for this violation is one count of California Only waste stored for longer than 90 days.

### POTENTIAL VIOLATIONS

There were many conditions at the refinery that contributed to potential violations, but were not completely assessed in the field during the ONYX site investigation. There were several drums of solid material at the refinery that passed the field screen tests, but may have failed the State tests for toxicity. The State test for toxicity consists of a metal screen, a pesticide screen and a fish bioassay test for aquatic toxicity. The toxicity tests cannot be run in the field and are extremely costly. For this reason, the Fire Department will allow CENCO to use generator knowledge for waste determination if it can be documented to the CUPA's satisfaction.

For the drums listed by ONYX as Potentially Hazardous Waste in the ONYX Report, CENCO shall submit reasonable documentation demonstrating the waste is non-hazardous as claimed by the refinery. The documentation shall include the ONYX assigned drum number and reasons why the waste is not hazardous (lab results, process is non-hazardous, Material Safety Data Sheets showing material is non-hazardous, etc). CENCO shall also submit procedures on how the refinery will determine if the waste is hazardous or non-hazardous and procedures on how the refinery will separate hazardous waste from non-hazardous waste in the future.

The drums listed by ONYX as Potentially Hazardous Waste are: 1C-1, 1C-2, 1C-4, 1C-5, 1C-6, 1C-7, 1C-8, 1C-9, 1C-14, 1C-21, 1C-22, 1C-23, 1C-31, 1C-32, 1C-35, 1C-48, 1C-49, 1C-51, 1C-52, 1C-53, 1C-54, 1C-55, 1C-57, 1C-58, 1C-59, 1C-60, 1C-61, 1C-62, 1C-63, 1C-65 through 1C-95, 1C-100, 1C-102, 1C-103, 1C-104, 1C-105, 1C-106, 3C-117, 3C-131, 3C-160, 3C-161, 3C-186, 3C-188, 3C-226, 3C-231, 3C-234 through 3C-238, 3C-240, 3C-243, 5C-888, 5C-890, 5C-898, 5C-900, 5C-926, 6C-17. The total number of Potentially Hazardous Waste drums is 88.

### CONCLUSION

Based on the information the CUPA has received in this investigation, the CUPA has determined that CENCO and Powerine have violated the regulations and laws pertaining to the management of hazardous waste. Because the violations are significant and the management knew of these violations yet failed to correct them prior to the CUPA's inspection, the CUPA has referred the matter to the City Attorney's office and the Attorney General's office for Civil Enforcement.

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Steve Koester, Env. Protection Splst.  
Environmental Protection Division  
City of Santa Fe Springs Fire Dept.

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Dave Klunk, Director Env. Services  
Environmental Protection Division  
City of Santa Fe Springs Fire Dept.

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Neal Welland, Fire Chief  
City of Santa Fe Springs Fire Dept.

# CENCO Refining Co.

12345 Lakeland Road • Santa Fe Springs, CA 90670 • Phone (562) 944-6111 • Fax (562) 903-8911

August 13, 1998

Mr. Mukul Agarwal  
Department of Toxic Substances Control  
1011 N. Grandview Avenue  
Glendale, CA 91201

Re: Powerine Refinery Acquisition, Tank Shell Inspection Reports, and Proposal to  
Recycle Material in Tanks 10006 and 27105

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Dear Mr. Agarwal:

Please be advised that CENCO Refining Company ("CENCO") acquired the Powerine Oil Company ("Powerine") refinery on August 6, 1998. CENCO's management plans to start up the refinery by mid-1999. As promised in Powerine's responses, dated July 2, and August 5, 1998, to the Department of Substance Toxic Control's (the "Department's") Report of Violations of April 2, 1998, enclosed is the completed tank shell inspection report for Tanks 10006 and 27105. CENCO proposes to recycle the oil-bearing sludge which will remain in these two tanks after the oil layer is removed and recovered. We estimate that eight (8) months of continuous Coker operations will be required to recycle the existing sludge in Tanks 10006 and 27105. CENCO's proposal is summarized below.

In my August 5, 1998 submittal to you, I again laid out Powerine's regulatory analysis and explained that the entire tank systems and oil-bearing materials in the tanks are excluded from classification as a waste. However, in the interest of settling this matter with the Department and to ensure the most expedient and safe recycling of the sludge, CENCO makes the following commitments to the Department. These commitments can be included in an enforceable agreement with the Department. CENCO will meet the following increments of progress:

1. CENCO will obtain financing for the significant commitment required to complete the modifications and maintenance projects at the refinery to enable a full refinery startup by early 1999. If financing is not obtained, CENCO will comply with Condition 2, below.
2. If financing is not in hand or imminent on December 31, 1998, CENCO will submit a proposal to the Department by January 31, 1999 to dispose of the oil-bearing material in Tanks 10006 and 27105.

If financing is obtained and refinery startup ensues:

3. CENCO will provide month-end updates on the status of startup activities beginning January 31, 1999 and continuing until stable operation of the Coker Unit is achieved.
4. CENCO will begin injection of the oil-bearing sludge from Tanks 10006 and 27105 no later than one week after achieving stable operation of the Coker Unit.
5. CENCO will inject the oil-bearing sludge at a maximum rate which will not cause adverse affects to operation of the Coker Unit or coke quality until all the sludge in Tanks 10006 and 27105 has been recycled to the Coker.
6. CENCO will monitor the recycling of the oil-bearing sludge and will submit monthly progress reports to the Department.
7. CENCO will conduct and document visual inspections of the tanks for leakage on a weekly basis, until all the oil-bearing sludge is recycled.
8. CENCO will ensure that at a minimum, on a 24-hour basis, one operator per shift will conduct rounds that include driving in the vicinity of Tanks 10006 and 27105.

Currently, the sludge is safely contained and the potential for exposure to the environment is nil. The plan set forth to recycle this material into the Coker Unit is the optimum resolution of the situation at hand. It is the safest and most environmentally friendly solution available. Regardless of the regulatory status of the material in the tanks, the material would be recycled, meeting both the Department's and CENCO's requirements for a safe, efficient and economic way to empty Tanks 10006 and 27105. CENCO believes that it is in everyone's best interest to inject the sludge into the Coker Unit, rather than dispose of it at a Class I landfill.

The tank shell thicknesses of Tanks 10006 and 27105 are greater than the American Petroleum Institute (API) Standard specifications for minimum shell thickness. Both tanks are structurally sound to store the oil-bearing material they contain. The two tanks are not in danger of rupture or leakage. A preliminary inspection of Tanks 10006 and 27105 was performed by CENCO as part of its due diligence efforts prior to purchasing the refinery. The inspection was performed by an individual experienced in refinery equipment inspections and Non Destructive Testing ("NDT") methods such as ultrasonic metal thickness measurement (UT gauging). The readings from this inspection were provided in Powerine's response of July 2, 1998.

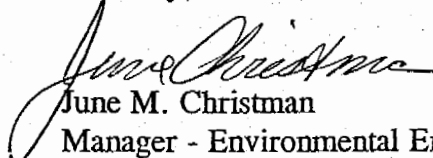


Since our telephone conversation with you on July 27, 1998, Powerine contracted Tank & Refinery Services Company, Inc. (TARSCO) to re-inspect Tanks 10006 and 27105 and provide a Professional Engineer ("PE") stamped inspection report. The PE stamped report is enclosed. Insulation on Tank 10006 was removed and the bare metal surface cleaned on the inspection areas before the shell was UT gauged. The painted metal surface on the inspection areas of Tank 27105 was cleaned before the shell was UT gauged. The load bearing bottom course of the tanks was most thoroughly inspected. For the bottom course, one plate per quadrant was inspected at a minimum of six (6) random points. The inspection for Tank 10006 revealed a minimum remaining wall thickness of 0.25 inch for the bottom shell plates<sup>1</sup>. The minimum required thickness (" $t_{min}$ ") is 0.18 inch for the bottom shell plates of this tank. For Tank 27105, the inspection revealed a minimum remaining wall thickness of 0.375 inch for the bottom shell plates. The  $t_{min}$  is 0.303 inch for the bottom shell plates of Tank 27105. In addition to the readings on the bottom course of the tanks, readings were also taken at approximately four (4) foot intervals going up the side staircase of the tanks. The thicknesses of these shell plates are also greater than the API specifications for minimum thickness. For example, the minimum reading taken for a top shell plate for Tank 10006 and Tank 27105 is 0.19 inch and 0.27 inch, respectively. The  $t_{min}$  for the top shell plates for both of these tanks is 0.10 inch.

The inspection report indicated no leaks from either of the tanks and no repairs were recommended. This confirms Powerine's statement that these two tanks are structurally sound despite their external weathered appearance.

Please feel free to contact Ray Huie of my staff with any questions you may have.

Sincerely,

  
June M. Christman  
Manager - Environmental Engineering

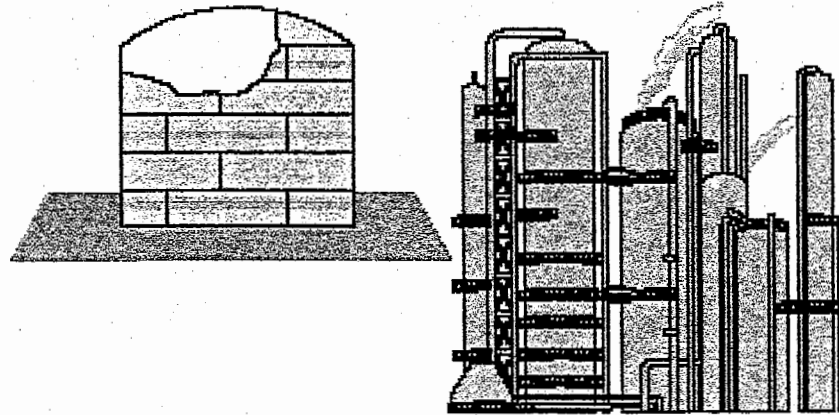
JMC:md

cc: Ahmed Hegab  
Geoff Soares  
Al Gualtieri  
Ray Huie  
File 41005.07, Reader File (\\ray\\dtsc\\reply\\tkinsp.doc)

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<sup>1</sup> The previous reported minimum reading of 0.20 inch in the preliminary inspection report has been corrected. TARSCO's reading is 0.25 inch.

Tank & Refinery Services Company, Inc.  
18060 Mt. Washington Street  
Fountain Valley, California 92708  
(714) 434-6600 FAX (714) 549-5710  
EMAIL: TARSCOINC@AOL.COM



## TRANSMITTAL

DATE: August 3, 1988

TO: Mr. Ray Huie

COMPANY: Powerine Oil Co.  
12354 Lakeland Road  
Santa Fe Springs, CA 90670

FROM: Jim Sorensen

SUBJECT: Report Submittal/Billing Submittal  
UT Testing of Tank Shell/Analysis  
10,000 BBL & 27,000 BBL Storage Tanks

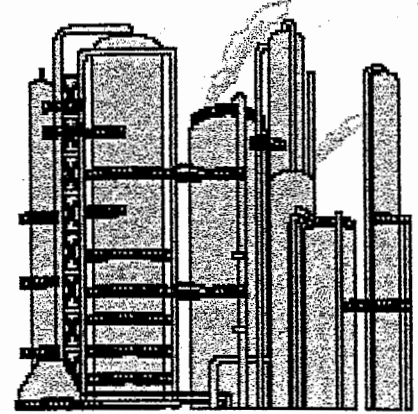
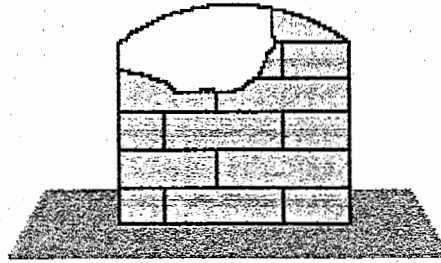
Pages: 1

Per your request we are pleased to submit the following report and billing for the subject project:

1. Invoice, Due and Payable
2. Report covering the subject work

Should you have any questions, please contact me. We look forward to being of service.

Tank & Refinery Services Company, Inc.  
18060 Mt. Washington Street  
Fountain Valley, California 92708  
(714) 434-6600 FAX (714) 549-5710  
EMAIL: TARSCOINC@AOL.COM

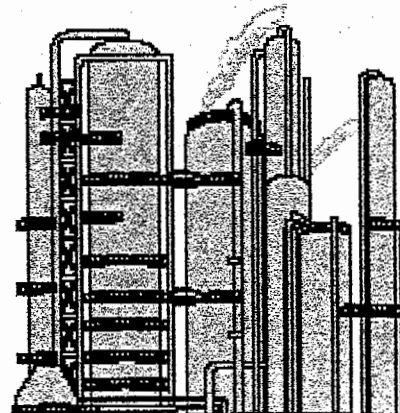
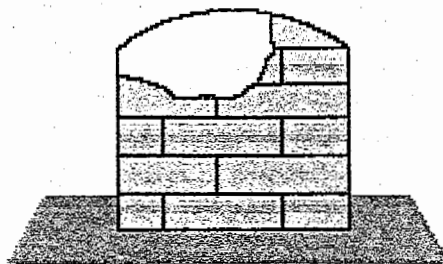


## 1. EXECUTIVE SUMMARY

Tank & Refinery Services Company, Inc. (TARSCO) completed an abbreviated inspection of the shells of Tank No. 10006, a 42.5'-0"Ø x 40'-0" high cone roof tank and Tank No. 27105, a 70'-0"Ø x 40'-0" high cone roof tank for Powerine Oil Company in Santa Fe Springs, CA on August 3, 1998. The inspection was performed in accordance with API Standard 653, Tank Inspection, Repair, Alteration and Reconstruction. A technical evaluation of the gathered data was completed utilizing standard computational techniques described in API Standards 650 and 653. The purpose of the inspection and evaluation was to ascertain the condition of the tank shells, and confirm suitability for service.

Nothing has been found that would prevent the tanks from being returned to service and storing petrochemical products. TARSCO engineering personnel have reviewed the inspection information provided by the tank inspectors and has evaluated the condition of the tank based upon that information. The information appears to be a reasonable representation of the tank's condition, but is not judged to represent the condition of the tank with absolute certainty. Accordingly, TARSCO has applied ordinary skill in making the evaluation and shall not be held liable for errors of omission or commission. TARSCO makes no warranty of merchantability or of fitness for a particular purpose or any other warranty of any kind, expressed or implied. The owner must satisfy itself as to the adequacy and accuracy of the inspection and evaluation and judge the value of the recommendations presented.

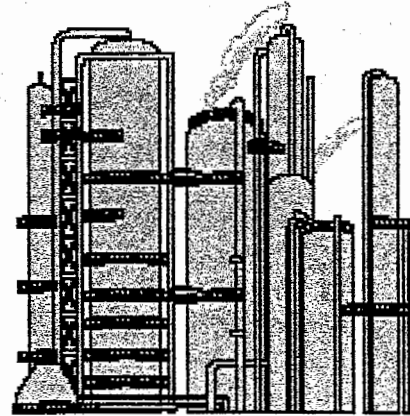
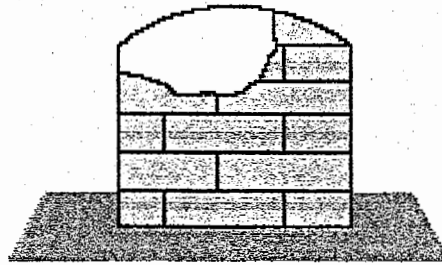
Tank & Refinery Services Company, Inc.  
 18060 Mt. Washington Street  
 Fountain Valley, California 92708  
 (714) 434-6600 FAX (714) 549-5710  
 EMAIL: TARSCOINC@AOL.COM



### Tank Historical & General Data Summary

Tank #:	10006		
Location:	Powerine Refinery; Santa Fe Springs, CA		
Year Built:	1965		
Built by:	GATX		
Construction:	Welded	Size	42.5'Ø x 40' High
Repair Date:	UNK	Repairs:	UNK
Product:	Slops		
Inspection Date:	8/3/98	API Certification:	# 1062
Inspector:	R. Campbell		
Company:	TARSCO		
Visual API 653 Inspection Date:	8/3/98	By:	R. Campbell
Shell Ultrasonic Inspection Date:	8/3/98	By:	P. Radcliffe ASNT Level II
Internal inspection Date:	NA		
Other	NA		
Suitable for Return to Service:	Yes	X	No
Ultrasonic Thickness Readings:			
Floor:	Average: Not Taken	Minimum: NA	Maximum: NA
Shell:			
First Course	Average: 0.26	Minimum: 0.23	Maximum: 0.29
Courses 2 - 5	Average: 0.19	Minimum: 0.18	Maximum: 0.21
Roof:	Average: Not Taken		
	Minimum: NA	Maximum: NA	
Settlement:	Not Accomplished		

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EMAIL: TARSCOINC@AOL.COM



### SHELL EVALUATION

Shell thickness readings were taken to evaluate tank suitability for continued service. The average shell thickness for Course 1 was 0.26". The average shell thickness for all other shell courses was 0.19".

The following data was used in the analysis and calculations:

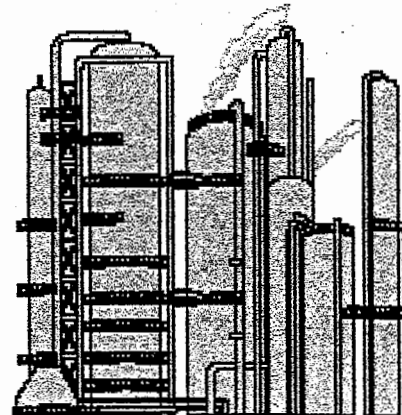
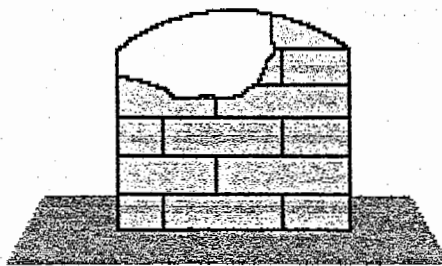
D=42.5'  
Max H=40'  
G= 1.0 (design)  
S= 23430 for all courses  
E= 1.0  
Y= 30000 for all courses  
T= 55000 for all courses

where:

- D = nominal diameter of tank, in feet
- H = height, in feet, from the bottom of the length of most severely corroded area in each shell course to the maximum liquid level
- G = highest specific gravity of the contents, including test water.
- S = maximum allowable stress in pounds per square inch; the smaller of  $0.80Y$  or  $0.426T$  for the first two courses.
- Y = specified minimum yield strength of the plate; use 30,000 pounds per square inch if not known.
- T = the smaller of the specified minimum tensile strength of the plate or 80,000 pounds per square inch; use 55,000 pounds per square inch if not known.
- E = original joint efficiency for the tank; use 0.7 if original is unknown.

API 653 allows use of  $E=1.0$  when evaluating the retirement thickness in a corroded plate, when away from welds or joints by at least the greater of one inch or twice the plate thickness.

Tank & Refinery Services Company, Inc.  
 18060 Mt. Washington Street  
 Fountain Valley, California 92708  
 (714) 434-6600 FAX (714) 549-5710  
 EMAIL: TARSCOINC@AOL.COM



Calculations were made in accordance with both API 653 and API 650 as described below.

Minimum thickness calculations for the shell courses were performed in accordance with API 653 Section 2.3.3. The following summarizes the calculations and the assumptions made.

$$t_{min} = \frac{2.6 D (H-1) G}{SE} \text{ where:}$$

$t_{min}$  = minimum acceptable thickness, in inches (at least 0.1" for any course)

Table I summarizes the data for Tank #10006. Note that API 650 requires a nominal (as constructed) shell plate thickness of at least 3/16" (0.1875") for tanks with diameters of less than 50 feet, regardless of the calculated design shell thickness.

TABLE I

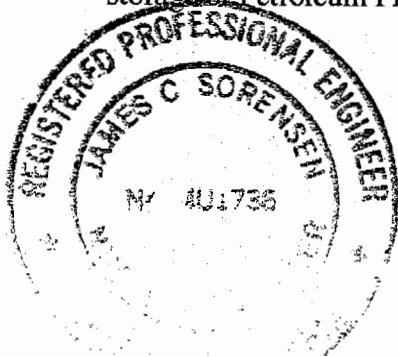
<u>Course #</u>	<u>Min Acceptable Thickness</u>	<u>Actual Thickness</u>	<u>Acceptable</u>
1	0.184	0.25	Yes
2	0.146	0.19	Yes
3	0.108	0.19	Yes
4	0.100	0.19	Yes
5	0.100	0.19	Yes

### INSPECTION RESULTS

This inspection was conducted to verify the shell integrity of Tank 10006.

### SUMMARY

Evaluation of the inspection data for the shell indicate that the tank is suitable for service for storage of Petroleum Products subject to the conditions as described in the Executive Summary.



*James C. Sorensen*  
 James C. Sorensen

TARSCO

Powerine Tank No. 10006  
GATX 42.5' Diameter x 40' CRT  
Shell Calculations

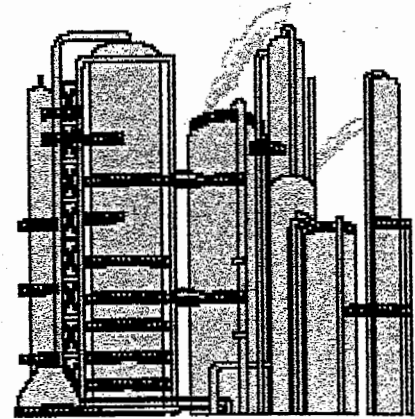
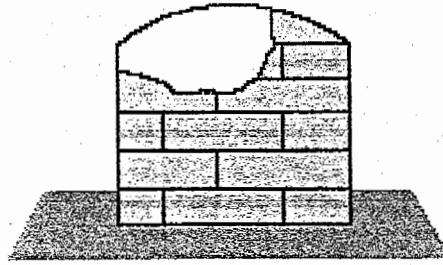
Shell Calculations, Tank Weights  
No Corrosion Allowance

$$t = 2.6 \times D \times (H-1) \times G / (Sd \times E) + CA$$

Diameter = 42.5  
Tank Height = 40  
Specific Gravity = 1 Assumed  
Sd = 23430  
C.A. = 0  
E = 1  
Tank Capacity = 10106 BBLs

Shell Course	Calculated Thickness	Actual Thickness	Course Wt.	Bottom Wt. 1/4" Plate	Structural Wt	Roof Plate Wt	Total Weight
1	0.184	0.250	10895	15193	5500	11395	
2	0.146	0.188	8171				
3	0.108	0.188	8171				
4	0.071	0.188	8171				
5	0.033	0.188	8171				
			43580	15193	5500	11395	75669

Tank & Refinery Services Company, Inc.  
 18060 Mt. Washington Street  
 Fountain Valley, California 92708  
 (714) 434-6600 FAX (714) 549-5710  
 EMAIL: TARSCOINC@AOL.COM

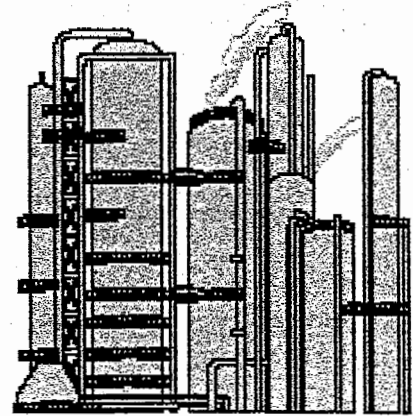
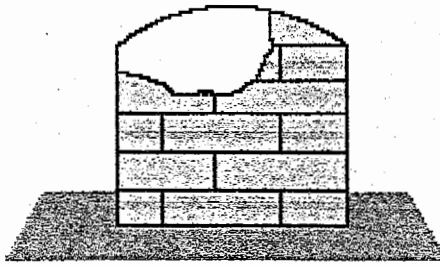


### Tank Historical & General Data Summary

Tank #:	27105		
Location:	Powerine Refinery; Santa Fe Springs, CA		
Year Built:	1969		
Built by:	PDM		
Construction:	Welded	Size	70'Ø x 40' High
Repair Date:	UNK	Repairs:	UNK
Product:	Slops		
Inspection Date:	8/3/98	API Certification:	# 1062
Inspector:	R. Campbell		
Company:	TARSCO		
Visual API 653 Inspection Date:	8/3/98	By:	R. Campbell
Shell Ultrasonic Inspection Date:	8/3/98	By:	P. Radcliffe ASNT Level II
Internal inspection Date:	NA		
Other	NA		
Suitable for Return to Service:	Yes	X	No
Ultrasonic Thickness Readings			
Floor:	Average: Not Taken		
	Minimum: NA	Maximum: NA	
Shell:			
First Course	Average: 0.375	Minimum: 0.362	Maximum: 0.391
All Other Courses	Average: 0.250	Minimum: 0.23	Maximum: 0.29
Roof:	Average: Not Taken		
	Minimum: NA	Maximum: NA	
Settlement	Not Accomplished		



Tank & Refinery Services Company, Inc.  
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Fountain Valley, California 92708  
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EMAIL: TARSCOINC@AOL.COM



### SHELL EVALUATION

Shell thickness readings were taken to evaluate tank suitability for continued service. The average shell thickness for Course 1 was 0.375". The average shell thickness for all other shell courses was 0.25".

The following data was used in the analysis and calculations:

D=70'  
Max H=40'  
G= 1.0 (design)  
S= 23430 for all courses  
E= 1.0  
Y= 30000 for all courses  
T= 55000 for all courses

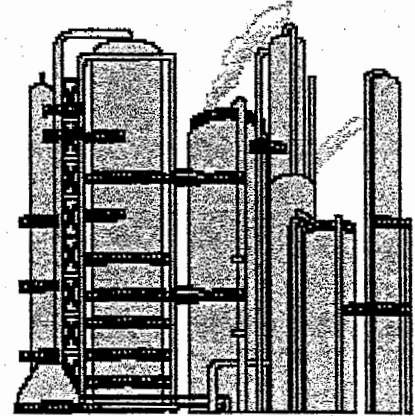
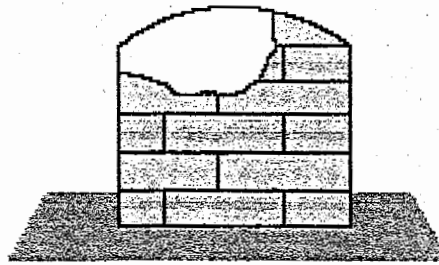
where:

- D = nominal diameter of tank, in feet
- H = height, in feet, from the bottom of the length of most severely corroded area in each shell course to the maximum liquid level
- G = highest specific gravity of the contents, including test water.
- S = maximum allowable stress in pounds per square inch; the smaller of 0.80Y or 0.426T for the first two courses.
- Y = specified minimum yield strength of the plate; use 30,000 pounds per square inch if not known.
- T = the smaller of the specified minimum tensile strength of the plate or 80,000 pounds per square inch; use 55,000 pounds per square inch if not known.
- E = original joint efficiency for the tank; use 0.7 if original is unknown.

API 653 allows use of E=1.0 when evaluating the retirement thickness in a corroded plate, when away from welds or joints by at least the greater of one inch or twice the plate thickness.

Calculations were made in accordance with both API 653 and API 650 as described below.

Tank & Refinery Services Company, Inc.  
 18060 Mt. Washington Street  
 Fountain Valley, California 92708  
 (714) 434-6600 FAX (714) 549-5710  
 EMAIL: TARSCOINC@AOL.COM



Minimum thickness calculations for the shell courses were performed in accordance with API 653 Section 2.3.3. The following summarizes the calculations and the assumptions made.

$$t_{\min} = \frac{2.6 D (H-1) G}{SE} \text{ where:}$$

$t_{\min}$  = minimum acceptable thickness, in inches (at least 0.1" for any course)

Table I summarizes the data for Tank #27105. Note that API 650 requires a nominal (as constructed) shell plate thickness of at least 1/4" (0.25") for tanks with diameters of greater than 50 feet and less than 120', regardless of the calculated design shell thickness.

TABLE I

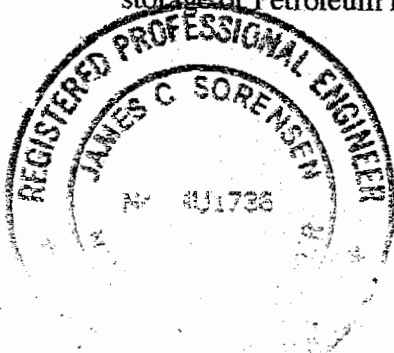
<u>Course #</u>	<u>Min Acceptable Thickness</u>	<u>Actual Thickness</u>	<u>Acceptable</u>
1	0.303	0.375	Yes
2	0.241	0.27	Yes
3	0.179	0.27	Yes
4	0.117	0.27	Yes
5	0.1	0.27	Yes

### INSPECTION RESULTS

This inspection was conducted to verify the shell integrity of Tank 27105.

### SUMMARY

Evaluation of the inspection data for the shell indicate that the tank is suitable for service for storage of Petroleum Products subject to the conditions as described in the Executive Summary.



*James C. Sorensen*  
 James C. Sorensen

TARSCO

Powerine Tank No. 27105  
PDM (1969) 70' Diameter x 40' CRT  
Shell Calculations

Shell Calculations, Tank Weights  
No Corrosion Allowance

$$t = 2.6 \times D \times (H-1) \times G / (Sd \times E) + CA$$

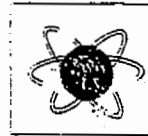
Diameter =	70	
Tank Height =	40	
Specific Gravity =	1	Assumed
Sd =	23430	
C.A. =	0	
Tank Capacity =	27416	BBLs
E =	1	

Shell Course	Calculated Thickness	Actual Thickness (as constructed)	Course Wt. (as constructed)	Bottom Wt. 1/4" Plate	Structural Wt	Roof Plate Wt	Total Weight
1	0.303	0.375	26917	41217	20500	30913	
2	0.241	0.250	17945				
3	0.179	0.250	17945				
4	0.117	0.250	17945				
5	0.054	0.250	17945				
			98696	41217	20500	30913	191326

# POWERINE Oil Company

12354 Lakeland Road, P.O. Box 2108  
Santa Fe Springs, California 90670-3857

(310) 944-9861  
(310) 944-6111



TLX No. 4720404  
A/S Powerine  
Facsimile (310) 944-8522

November 30, 1995

Norbert P. Schnabel  
Fire Chief  
Fire Department of the City of Santa Fe Springs  
11300 Greenstone Avenue  
Santa Fe Springs, California 90670

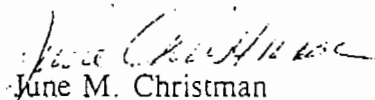
Dear Mr. Schnabel:

As requested, enclosed please find Powerine Oil Company's facility closure plan. As we discussed, many of the details regarding site closure have yet to be finalized. Therefore consider this a conceptual closure plan to be amended later as more detailed information regarding the refinery's closure becomes available.

We are currently focussed on removing all liquid hydrocarbon from the equipment and preparing the Refinery equipment for dismantling. Once the asset buyer develops an overall plan for equipment removal we will forward this information to you.

Please feel free to contact me with any questions you may have.

Sincerely,

  
June M. Christman  
Manager - Environmental Engineering

JMC:aj\cslpntfd.doc  
Enc.

cc: A. L. Gualtieri  
Mike Abbasfard  
Willie Chiang  
Vas Kenyen  
Reader File  
File 31011

**PHASE I**

**CLOSURE PLAN FOR**

**POWERINE OIL COMPANY**

## TABLE OF CONTENTS

- Section 1: Introduction
- Section 2: Preparation of Refinery Equipment for Dismantling
- Section 3: Preparation of Refinery Tanks for Dismantling
- Section 4: Plan for Items Specified in the Fire Department of the City of Santa Fe  
Springs October 31, 1995 Letter

## SECTION 1: INTRODUCTION

Powerine Oil Company ("Powerine") ceased operation of its Santa Fe Springs Refinery during the week of July 3, 1995. Powerine entered into a Purchase Agreement with Kenyen Projects Limited ("Kenyen") which involves the sale of all of the refinery processing equipment and most of the storage tanks. The activities in the Refinery since early July have focused on preparing the processing equipment and storage tanks for dismantling by Kenyen's contractor. Along with this effort, we have also been selling the remaining hydrocarbon inventory. Another activity that has recently been completed involves the processing of approximately 150,000 barrels of sour water inventory that remained after shutting down the refinery. This required the operation of the Sour Water Stripper, Sulfur Plant and Tail Gas Treating Unit facilities. Furthermore, certain utility systems will continue to have to be operated for the foreseeable future. The systems include boilers, the boiler feed water treating plant, the fuel gas and vapor recovery systems, as well as the flare system.

## SECTION 2: PREPARATION OF REFINERY EQUIPMENT FOR DISMANTLING

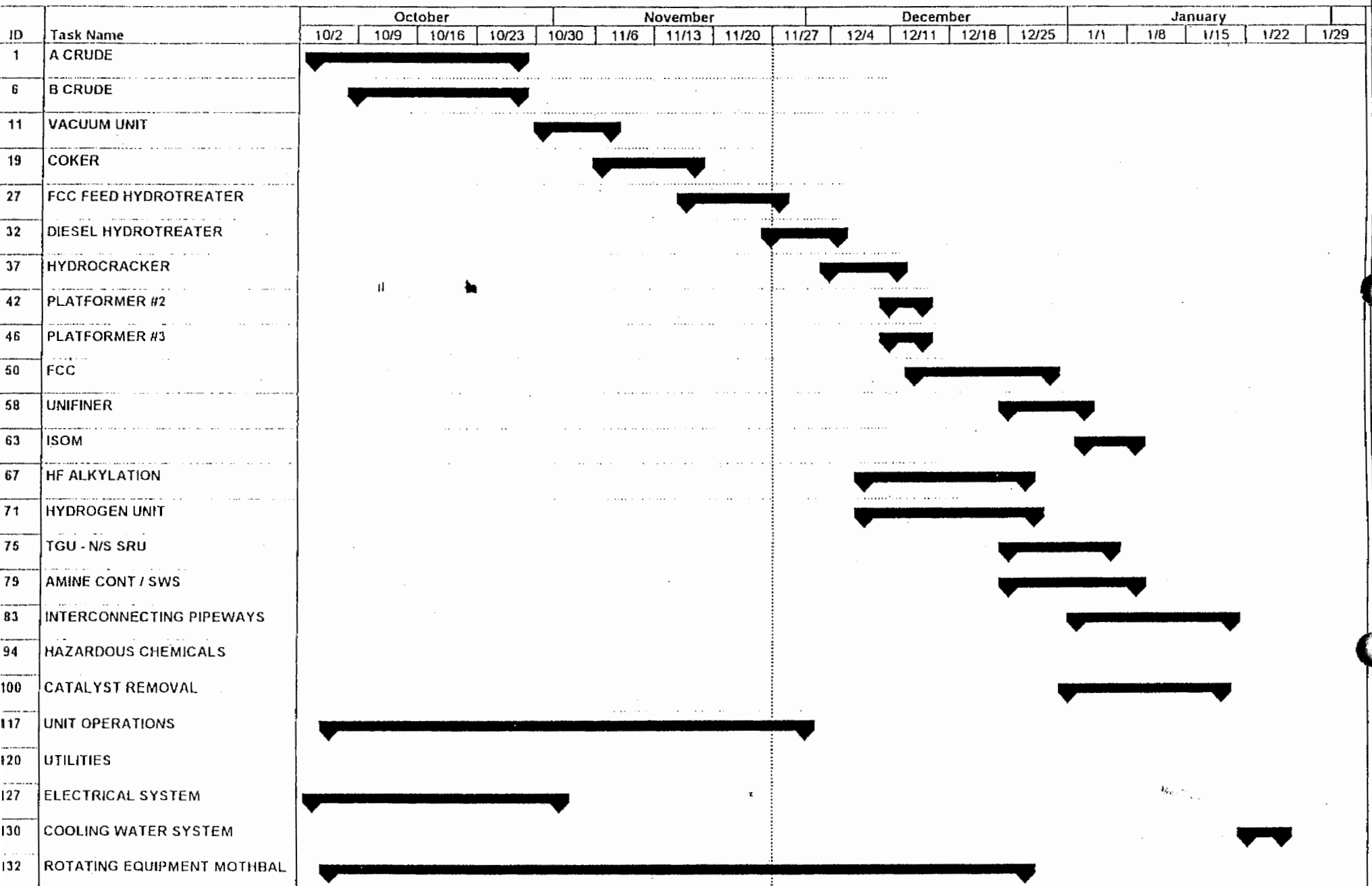
This report summarizes the time schedule and tasks required to prepare the refinery equipment for dismantling. Powerine Oil Company's refinery units and equipment can be properly prepared for dismantling by January 1996. This effort will require the services of approximately 40 full-time personnel with some additional outside services. The project scope developed by Powerine will ensure that all equipment is free of hydrocarbon and hazardous chemicals, and will ensure the integrity of equipment for reliable start-up after reinstallation.



## TABLE OF CONTENTS

<u>Sub-Section</u>	<u>Item</u>
A	Overall Project Schedule
B	Project Objectives
C	Technical Summary of Project Elements
D	Detailed Project Schedule

# OVERALL PROJECT SCHEDULE



# OVERALL PROJECT SCHEDULE

ID	Task Name	October					November					December				January			
		10/2	10/9	10/16	10/23	10/30	11/6	11/13	11/20	11/27	12/4	12/11	12/18	12/25	1/1	1/8	1/15	1/22	1/29
138	GENERAL																		
139	GENERAL FACILITY OVERSIGHT																		
140	PROJECT COORDINATORS																		

## PROJECT OBJECTIVES

The following objectives will be met through execution of the project:

1. All unit equipment and interconnecting piping will be free of hydrocarbon or hazardous chemicals.
2. All hazardous chemicals, catalyst and tank sludge will be removed from the facility.
3. All equipment will be maintained under an inert (nitrogen) blanket to prevent corrosion.
4. Equipment constructed from austenetic (300 series) stainless steels will be chemically passivated to prevent polythionic cracking when dismantled.
5. All rotating equipment will be mothballed to ensure reliable operation after re-installation.
6. All electrical power systems will be de-energized to ensure safe dismantling and properly mothballed to prevent degradation.
7. All pneumatic and electronic instrumentation components shall remain powered up and pressurized with dry instrument air to prevent degradation.
8. The refinery sour water inventory and any remaining hydrocarbon will be removed from tankage prior to cleaning, degassing and sludge removal.

### THE FOLLOWING ARE NOT INCLUDED IN THE PROJECT OBJECTIVES:

- Repair of any mechanical equipment which is known to be in poor condition.
- Off site facilities including pipelines, Long Beach Marine Terminal and product loading racks.

## TECHNICAL SUMMARY OF PROJECT ELEMENTS

### UNIT STEAMOUT

Equipment will be flooded with high pressure steam to remove free hydrocarbon from all equipment. Condensate and free hydrocarbon are drained for disposal.

### BOUNDARY LIMIT BLINDING

Boundary limit blinds will be installed so that nitrogen pressure can be maintained on all equipment. This will prevent future hydrocarbon contamination during the interconnecting piping cleanup effort and will minimize nitrogen loss due to valve leakage.

### NITROGEN BLANKETING

Nitrogen blanketing will be maintained ( 5-10 psig) after all cleanup activity is completed. Nitrogen will prevent internal corrosion of equipment.

### PASSIVATION OF 300 SERIES STAINLESS STEELS

Units containing 300 series stainless steel metallurgy will be chemically passivated in a two step procedure to neutralize polythionic (sulfur containing) compounds:

Step 1: Circulate Soda Ash solution through all stainless steel piping and equipment.

Step 2: Remove all stainless steel heat exchanger bundles and hydroblast scale from tubes using a Soda Ash solution.

If not passivated, this equipment will experience severe cracking during the dismantling process. Sulfur containing compounds combine with air and moisture to form polythionic acids which crack 300 series stainless steels. The hydroblasting step is required to neutralize under scale deposits.

### LIGHT CYCLE OIL (LCO) WASH OF SELECT EQUIPMENT UNITS

The heavy hydrocarbon in the Coker, Vacuum and FCC units cannot be effectively removed by steam out procedures. Light cycle oil will be circulated through these systems to remove all heavy hydrocarbon from heat exchanger bundles and other equipment.

### HYDROBLASTING HEAT EXCHANGERS

Heat exchangers in Vac Resid or similar service will be opened and inspected to ensure that all hydrocarbon and solid deposits have been removed. Any remaining debris will be hydroblasted from the heat exchanger bundles.

### MOTHBALLING OF ROTATING EQUIPMENT

Rotating equipment will be mothballed following industry standard procedures. These include sealing off all bearing housings and packing with preservative, cleaning out and preserving lube oil systems and protecting steam turbines from internal corrosion.

NOTE: The scope of this project does not include repair of equipment known to be in poor mechanical condition at this time.

### MOTHBALLING OF ELECTRICAL POWER SYSTEMS

All electric motors will be sealed to prevent corrosion to internals from moisture. All switchgear contacts will be protected with preservative to prevent corrosion. Transformers will be protected from moisture contamination after powered down.

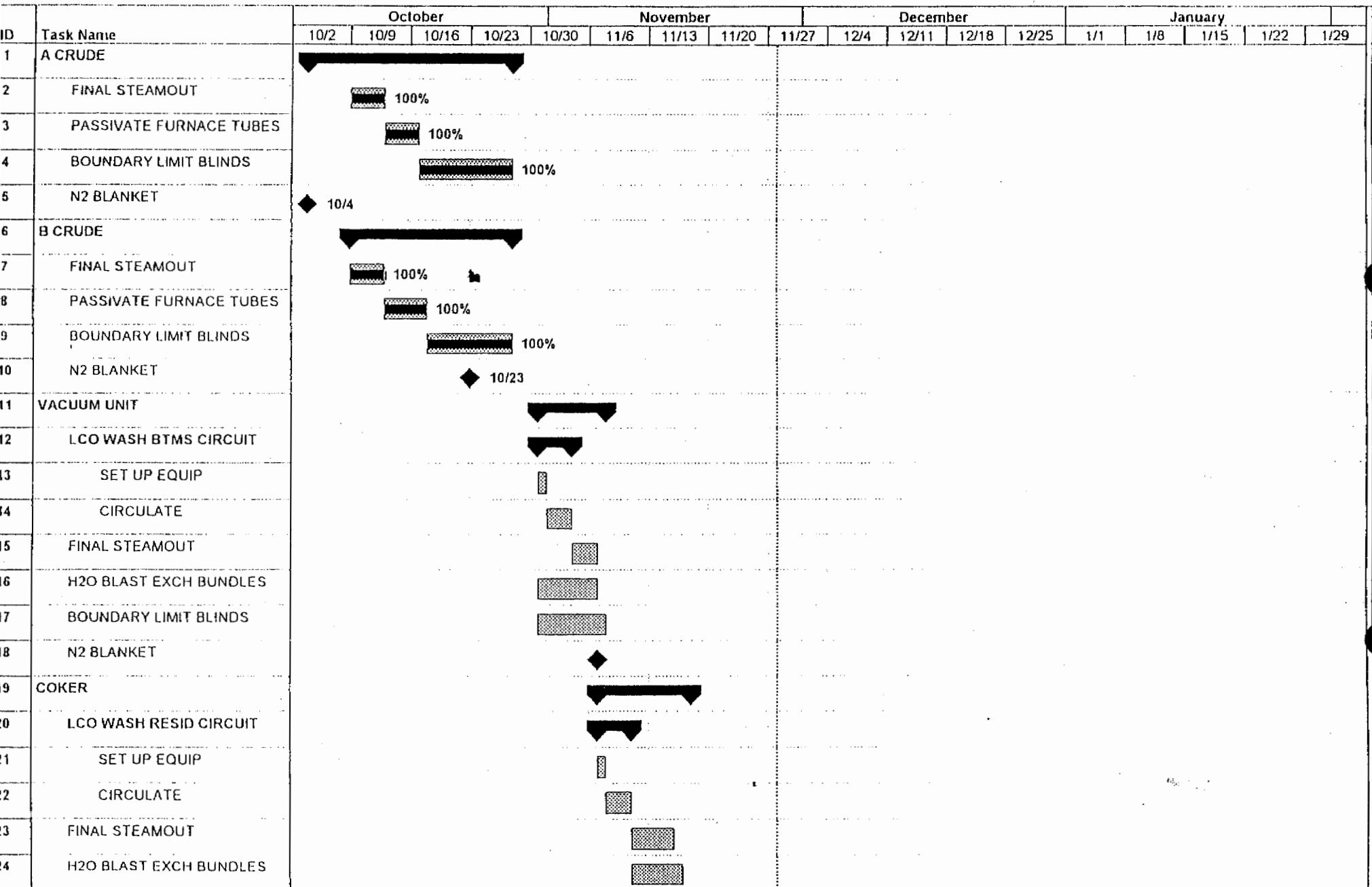
### REMOVAL OF HAZARDOUS CHEMICALS

All hazardous chemicals will be removed from the facility to ensure safe dismantling of all systems and to prevent potential exposure to the community.

"SUBSECTION D"

# **DETAILED PROJECT SCHEDULE**

# DETAIL PROJECT SCHEDULE





# DETAIL PROJECT SCHEDULE

ID	Task Name	October				November				December				January					
		10/2	10/9	10/16	10/23	10/30	11/6	11/13	11/20	11/27	12/4	12/11	12/18	12/25	1/1	1/8	1/15	1/22	1/29
25	BOUNDARY LIMIT BLINDS																		
26	N2 BLANKET																		
27	FCC FEED HYDROTREATER																		
28	FINAL STEAMOUT																		
29	PASSIVATE EXCHANGERS																		
30	BOUNDARY LIMIT BLINDS																		
31	N2 BLANKET																		
32	DIESEL HYDROTREATER																		
33	FINAL STEAMOUT																		
34	PASSIVATE SS HTR / EXCH																		
35	BOUNDARY LIMIT BLINDS																		
36	N2 BLANKET																		
37	HYDROCRACKER																		
38	FINAL STEAMOUT																		
39	PASSIVATE SS HTRS/EXCH																		
40	BOUNDARY LIMIT BLINDS																		
41	N2 BLANKET																		
42	PLATFORMER #2																		
43	FINAL STEAMOUT																		
44	BOUNDARY LIMIT BLINDS																		
45	N2 BLANKET																		
46	PLATFORMER #3																		
47	FINAL STEAMOUT																		
48	BOUNDARY LIMIT BLINDS																		

# DETAIL PROJECT SCHEDULE

ID	Task Name	October				November				December				January					
		10/2	10/9	10/16	10/23	10/30	11/6	11/13	11/20	11/27	12/4	12/11	12/18	12/25	1/1	1/8	1/15	1/22	1/29
49	N2 BLANKET																		
50	FCC																		
51	LCO WASH BTMS CIRCUIT																		
52	INSTALL EQUIPMENT																		
53	CIRCULATE																		
54	FINAL STEAMOUT																		
55	H2O BLAST EXCH BUNDLES																		
56	BOUNDARY LIMIT BLINDS																		
57	N2 BLANKET																		
58	UNIFINER																		
59	FINAL STEAMOUT																		
60	PASSIVATE F/P EXCHANGERS																		
61	BOUNDARY LIMIT BLINDS																		
62	N2 BLANKET																		
63	ISOM																		
64	FINAL STEAMOUT																		
65	BOUNDARY LIMIT BLINDS																		
66	N2 BLANKET																		
67	HF ALKYLATION																		
68	FINAL STEAMOUT																		
69	BOUNDARY LIMIT BLINDS																		
70	N2 BLANKET																		
71	HYDROGEN UNIT																		
72	FINAL STEAMOUT																		














# DETAIL PROJECT SCHEDULE

ID	Task Name	October				November				December				January					
		10/2	10/9	10/16	10/23	10/30	11/6	11/13	11/20	11/27	12/4	12/11	12/18	12/25	1/1	1/8	1/15	1/22	1/29
73	BOUNDARY LIMIT BLINDS																		
74	N2 BLANKET																		
75	TGU - N/S SRU																		
76	FINAL STEAMOUT																		
77	BOUNDARY LIMIT BLINDS																		
78	N2 BLANKET																		
79	AMINE CONT / SWS																		
80	FINAL STEAMOUT																		
81	BOUNDARY LIMIT BLINDS																		
82	N2 BLANKET																		
83	INTERCONNECTING PIPEWAYS																		
84	BUTANE AND LIGHTER																		
85	LSR NAPTHA																		
86	HVY NAPTHA																		
87	JET																		
88	DIESEL																		
89	LIGHT CYCLE OIL																		
90	LIGHT GAS OILS																		
91	HEAVY GAS OILS																		
92	FUEL OIL																		
93	VACUUM RESID																		
94	HAZARDOUS CHEMICALS																		
95	HF ACID																		
96	AMMONIA																		

# DETAIL PROJECT SCHEDULE

ID	Task Name	October				November				December				January					
		10/2	10/9	10/16	10/23	10/30	11/6	11/13	11/20	11/27	12/4	12/11	12/18	12/25	1/1	1/8	1/15	1/22	1/29
97	CHLORINE																		
98	SULFURIC ACID																		
99	CAUSTIC																		
100	CATALYST REMOVAL																		
101	ISOM I8 CATALYST																		
102	ISOM FEED DRYERS																		
103	C/U CLAY TWRS (2)																		
104	DHT RXS (2) - PASSIVATE																		
105	UNIFINER REACTOR - PASSIV																		
106	C/U SALT TOWERS																		
107	FHT REACTOR - PASSIVATE																		
108	HC REACTORS (2) - PASSIVAT																		
109	TGU CATALYST																		
110	SRU CATALYST																		
111	HY REFORMER FURNACE																		
112	HY METHANATOR																		
113	HY ZINC OXIDE RXS (2)																		
114	HY LTS REACTOR																		
115	HY HTS REACTOR																		
116	HY COMO GUARD RX																		
117	UNIT OPERATIONS																		
118	SWS UNIT / ENV UNIT OPS																		
119	WASTE WATER																		
120	UTILITIES																		

# DETAIL PROJECT SCHEDULE

ID	Task Name	October					November				December				January				
		10/2	10/9	10/16	10/23	10/30	11/6	11/13	11/20	11/27	12/4	12/11	12/18	12/25	1/1	1/8	1/15	1/22	1/29
121	STEAM SYSTEM																		
122	DO NOT S/D	◆																	
123	AIR SYSTEM																		
124	DO NOT S/D	◆																	
125	WATER																		
126	DO NOT S/D	◆																	
127	ELECTRICAL SYSTEM																		
128	DE-ENERGIZE UNIT SUBSTATI																		
129	MOTHBALL SUBSTATIONS																		
130	COOLING WATER SYSTEM																		
131	DRAIN AND ISOLATE																		
132	ROTATING EQUIPMENT MOTHBAL																		
133	MOTHBALL 900 PUMPS																		
134	PROTECT MOTORS (1500)																		
135	PRESERVE 15 STEAM TURBIN																		
136	PRESERVE 4 CENTRIF COMP																		
137	PRESERVE 15 RECIP COMPR																		
138	GENERAL																		
139	GENERAL FACILITY OVERSIGHT																		
140	PROJECT COORDINATORS																		

### SECTION 3: PREPARATION OF REFINERY TANKS FOR DISMANTLING

Powerine has issued Requests for Proposals (RFP's) to various consultants, tank cleaning and hazardous waste management companies to clean the refinery tanks and prepare the residuals for disposal. This is a complex task. Tank residuals must be characterized in order to develop disposal options. Waste minimization, recycling, and disposal options must be developed and a master plan for residuals disposition must be formulated.

We anticipate the master plan will be developed within the first quarter of 1996 and that actual cleaning of the refinery tanks could take most of 1996 to complete.

#### SECTION 4: PLAN FOR ITEMS SPECIFIED IN THE FIRE DEPARTMENT OF THE CITY OF SANTA FE SPRINGS OCTOBER 31, 1995 LETTER

As requested, we will address the specific items listed in your October 31, 1995 letter. Most of these items are "Post January 1996" activities, therefore detailed activity schedules have not been developed at this time. Our plans for addressing many of these issues are in the conceptual stage.

Asbestos - Kenyen is responsible for removing and disposing of all asbestos containing materials. We anticipate this activity will proceed in early 1996. Kenyen is required to follow all applicable laws in handling and disposing of any hazardous material. Powerine is specifically entitled to oversight activities with respect to asbestos removal.

Portable Containers - We anticipate that activity to remove all portable containers from the site will begin in May of 1996 and could continue until October of 1996.

High Pressure Cylinders - Where feasible, high pressure cylinders have been returned to their original manufacturers. Cylinders that remain on-site are either in use or their use is anticipated within the next few months. All high pressure cylinders should be removed from the site by mid 1996.

Above and Below Ground Tanks - As discussed in our section entitled "Preparation of Refinery Tanks for Dismantling" a master plan for cleaning out tanks is being developed.

Underground tanks are being closed under the oversight of the Los Angeles Department of Public Works. We anticipate leaving underground tanks in place until all the above ground equipment has been removed from the refinery. Underground tank removal is anticipated to be a 1997 activity.

Process Lines and Vessels - Please refer to our section entitled Preparation of Refinery equipment for Dismantling.

Underground Pipelines Within Santa Fe Springs - As discussed during our meeting with City and Fire Department staff, Powerline is currently attempting to sell several of the pipelines and Bloomfield terminal as an ongoing business. We have numerous interested parties at this time and require additional time to cultivate interest in this business venture. This will allow prospective buyers to complete their due diligence. We do not anticipate discussing abandoning any pipelines with the City until 1997.

LPG Tanks - These tanks will also be addressed in our master plan for tank cleaning.

Sumps and Clarifiers - These units will be handled after refinery dismantling is complete as part of the site clearing in 1997.

Waste Residues and Waste Streams - Waste residues and waste streams will be handled on an as needed basis throughout the duration of Refinery closure. We will follow all applicable laws when disposing of waste residues.



Soil and Groundwater Contamination - As discussed, subsurface remediation issues will be handled under the oversight of the Regional Water Quality Control Board. As you may know, our next phase of groundwater investigation will begin in December 1995. Soil remediation activities are not expected to begin until 1997 after the Refinery has been dismantled.

Building Demolition - At this time, buildings on-site are not planned for demolition until after the Refinery equipment is dismantled in 1997.

Posting of a Bond - This issue was discussed at our November 15 meeting with City and Fire Department staff and again in a meeting with a City Manager Don Powell and Al Gualtieri, Mike Egner, and Bob Turner of Powerine on November 17, 1995. I believe Mr. Powell and Mr. Gualtieri mutually agreed on a strategy that will satisfy the City that all Powerine cash flow from asset sales, including the property sale, is committed to handling Powerine's liabilities. We are working on providing the agreed upon documentation and anticipate submitting it no later than December 15, 1995.

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